

Work Order ID 76224

76224

Page 1

Monday, November 07, 2011 2:43:30 PM

Item ID: D3407-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Stem

Stop

NS2

Start Date: 11/7/2011 Start Qty: 20.00

20

Cust Item ID:

Required Date: 11/16/2011 Req'd Qty: 20.00

20

Customer:

Reference:

Approvals: Process Plan:

Date: 11/07

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr								
----------	--------------	--	--	--	--	--	--	--	--

D3407

Rev E

0.00

100

DOOSAN LATHE

0.00

Doosan

Memo

Doosan Lathe

1-Turn as per Folio FA596 Rev: E & Dwg D3407 Rev: E 2-Deburr

SJ 11/11/12

20 6

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

Memo

0.00

QC

Quality Control

SJ 11/11/12

20 6

120

QC8- Inspect parts - second check

0.00

120

Memo

0.00

QC

Quality Control

on 11/11/14

20 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Work Order ID 76224

76224

Page 2

Monday, November 07, 2011 2:43:30 PM

Item ID:	D3407-1	Accept	*N900040100*	Setup	Start	*NS1*	
Revision ID:							
Item Name:	Stem				Stop	*NS2*	
Start Date:	11/7/2011	Start Qty:	20.00	*20*	Cust Item ID:		
Required Date:	11/16/2011	Req'd Qty:	20.00	*20*	Customer:		
Reference:							
Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	*NR1*
	QC:	Date:	SPC (Y/N):	Date:	Stop		*NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Packaging	Identify as per dwg & Stock Location: <u>ST WA</u>	0.00							<u>Sp 11-11-14</u>
	Memo	0.00							
140 *140* QC	QC21- Final Inspection - Work Order Release	0.00							<u>11/11/15 HJ</u>
	Memo	0.00							

11/11/14
20

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Picklist Print

Page 1

Monday, November 07, 2011 2:43:34 PM

Work Order ID: 76224

76224
D3407-1

Parent Item: D3407-1

Parent Item Name: Stem

Start Date: 11/7/2011

Required Date: 11/16/2011

Start Qty: 20.00

Required Qty: 20.00

Comments:

IPP Rev:A05.10.18New issueKJ/EC

IPP Rev:B Now on Doosan 08-05-14 JLM Verified By:DD

IPP Rev:C 08-08-12 revE as per dwg (ecn 08-507) DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total <i>Qty</i>	Qty Issued	Date Issued	Status
M174R0.750		Purchased	No			100	f	24.9940	0.366	7.705263		**	11/11/12

M174R0 750

17-4 round bar .750

Location	Loc Qty	Loc Code
MAT030	24.994	
117683	0.465	
118483	0.359	
119158	24.17	

4 ft
4 ft

* Finishes Sod & end of 6-1
(included)

M174R0.750
M119158

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	76224
Description: Tow Ring	Part Number:	D3407-1
Inspection Dwg: D3407 Rev: E		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.063	+/-0.010	.063	/			
1/4-28 UNF	Max: 0.2668 Min: 0.2635	.264	/			
Major Ø	Max: 0.249 Min: 0.2425	.245	/			
Ø0.625	+/-0.010	.625	/			
Ø0.363	+/-0.010	.363	/			
Ø0.750	+/-0.010	.746	/			
R0.100	+/-0.010	R.100	/			
0.470	+/-0.010	.471	/			
0.500	+/-0.010	.500	/			
3.250	+/-0.010	3.250	/			
4.250	+0.000/-0.010	4.243	/			
5.270	+/-0.010	5.270	/			Milling 2nd op
0.150	+/-0.010	.158	/			/
0.550	+/-0.010	.558	/			/
0.625	+/-0.010	.621	/			/
0.250	+0.010/-0.000	.260	/			/

Measured by:		Audited by:		Prototype Approval:	N/A
Date:	11/11/12	Date:	11/11/14	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.09.19	New Issue	KJ/JLM	
B	07.07.18	Tolerances for diameters updated per Machinists	KJ/JLM	
C	08.05.14	Dimensions updated per Dwg Rev D	KJ/JLM	
D	08.10.07	Dimensions updated per Dwg Rev E	KJ/DD	

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

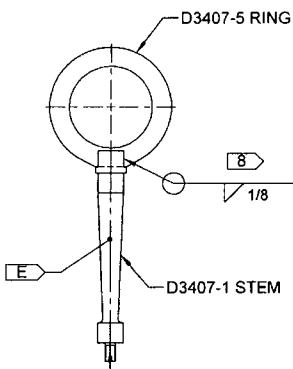
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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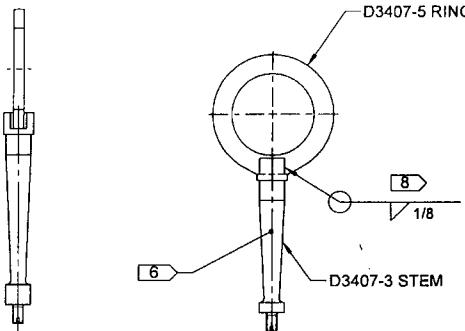
8 7 6 5 4 3 2 1

A

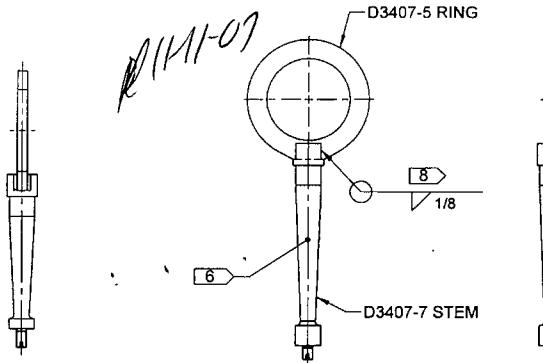
QTY -041	QTY -043	QTY -045	PART NUMBER	DESCRIPTION
X			D3407-041	TOW RING
	X		D3407-043	TOW RING
		X	D3407-045	TOW RING
1			D3407-1	STEM
	1		D3407-3	STEM
1	1	1	D3407-5	RING
		1	D3407-7	STEM



D3407-041 TOW RING



D3407-043 TOW RING



D3407-045 TOW RING A

SHOP COPY

RETURN TO

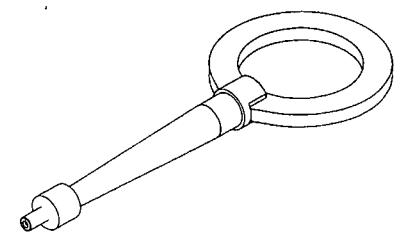
ENGINEERING

UNCONTROLLED DRAWING

SUBJECT TO AMENDMENT

WITH REFERENCE TO

WORK ORDER

NO. *76224*RELEASED
07/01/09

A NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3 (EXCEPT THREADS)
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3407-XXX" USING BLACK FINE POINT PERMANENT INK MARKER A
- 7) WEIGHT: D3407-041 - 0.60 lbs, D3407-043 - 0.53 lbs, D3407-045 - 0.61 lbs
- 8) WELD PER DART QSI 004 ON ALL EDGES BETWEEN STEM AND RING

E	ADD D3407-045 (ZN B2-1, D8-1); ADD D3407-7 (ZN B6-5); REVISION NOTE 6 TO ADD IDENTIFICATION (ZN A5-1); REASON: PRODUCTION FACILITY	PH	08.07.23
D	D3407-1/3 SLOT WAS ROUND NOW FLAT FOR ASSEMBLY WITH D3407-5 (ZN C2-2, C2-3); D3407-5 WAS ROUND NOW FLAT ON ONE END FOR ASSEMBLY WITH D3407-1/3 (ZN B6-4); REASON: PRODUCTION FACILITY	PH	08.04.07
C	-1/3 LONGER FOR FIT W/WASHER	CP	05.09.09
B	UPDATE DIAMETER, THREAD CLASS ADDED	CP	05.06.17
A	NEW ISSUE	CP	05.03.16
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>9</i>	DART AEROSPACE USA, INC.	
DRAWN	<i>10</i>	PORT HADLOCK, WA	
CHECKED	<i>10</i>	DRAWING NO.	REV. E
MFG. APPR.	<i>10</i>	D3407	SHEET 1 OF 5
APPROVED	<i>10</i>	TITLE	SCALE
DE APPR.	<i>10</i>	TOW RING	NTS
DATE	08.07.23	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PROPRIETARY INFORMATION OWNED BY DART AEROSPACE USA, INC. IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

8 7 6 5 4 3 2 1

A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

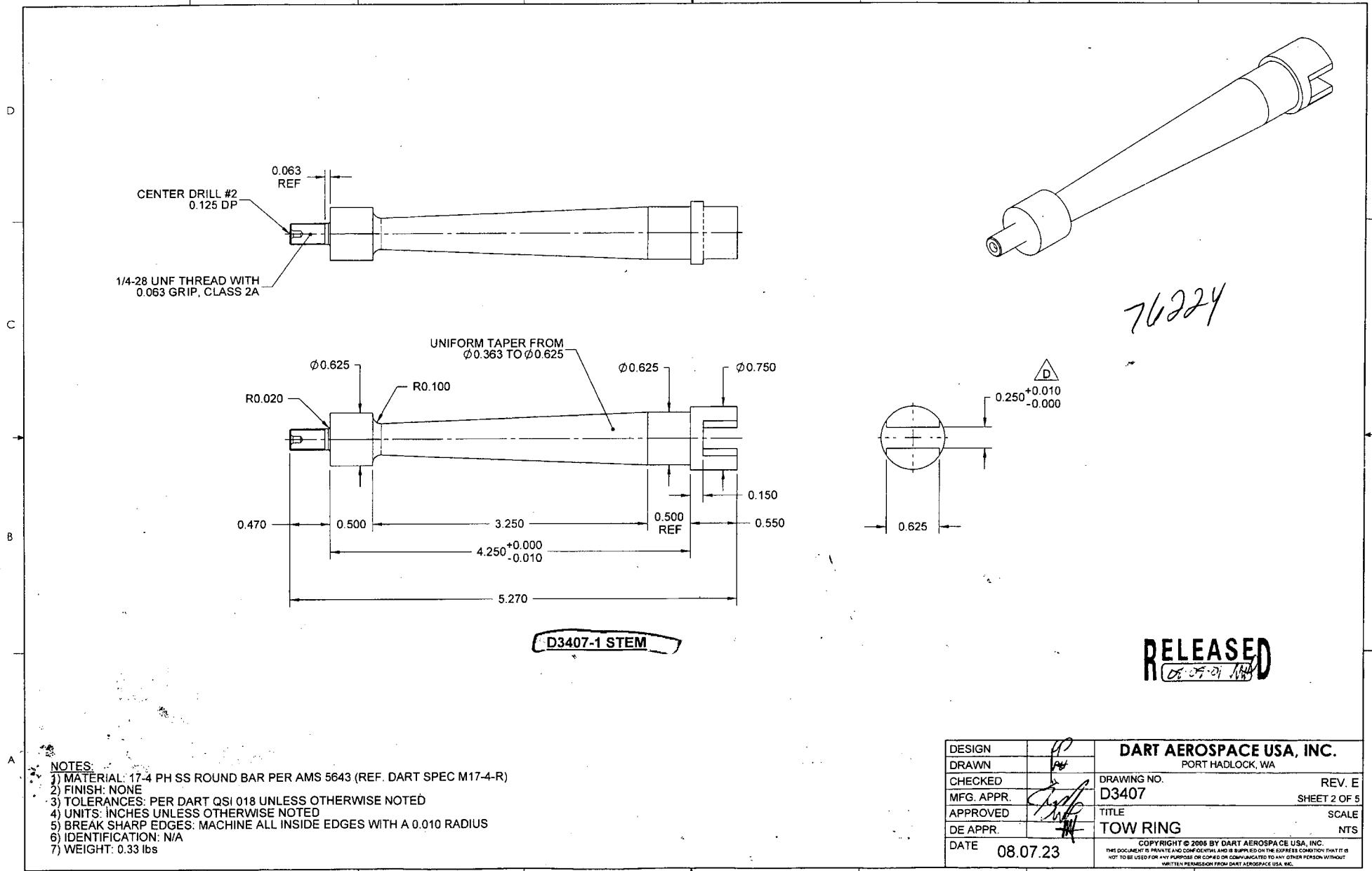
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1



DESIGN	92	DART AEROSPACE USA, INC.
DRAWN	98	PORT HADLOCK, WA
CHECKED	✓	DRAWING NO. REV. E
MFG. APPR.	✓	D3407 SHEET 2 OF 5
APPROVED	✓	TITLE SCALE
DE APPR.	✓	TOW RING NTS
DATE	08.07.23	

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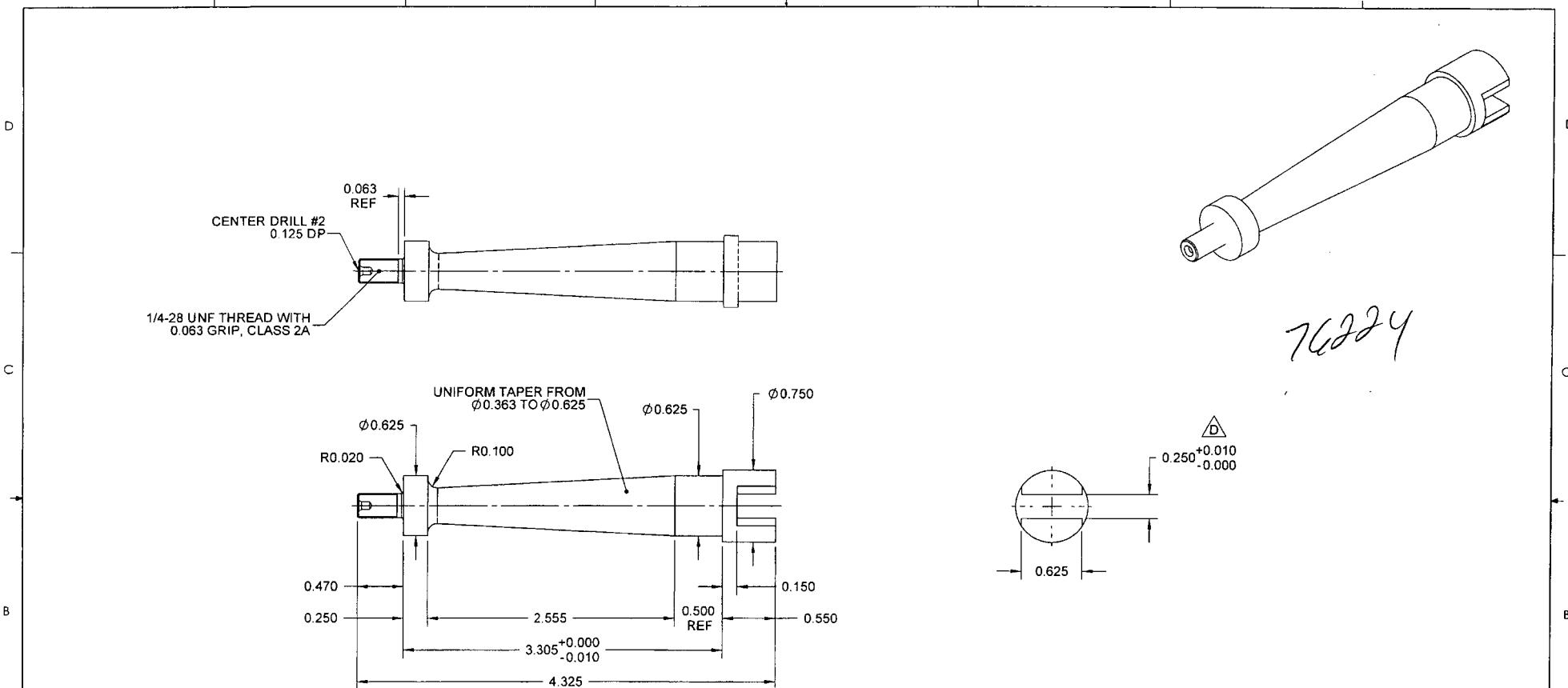
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

D3407-3 STEMRELEASED
08-01-14

NOTES:

- 1) MATERIAL: 17-4 PH SS ROUND BAR PER AMS 5643 (REF. DART SPEC M17-4-R)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: MACHINE ALL INSIDE EDGES WITH A 0.010 RADIUS
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.27 lbs

DESIGN	90	DART AEROSPACE USA, INC.	
DRAWN	108	PORT HADLOCK, WA	
CHECKED	5	DRAWING NO.	
MFG. APPR.	2/2	REV. E	
APPROVED	1/1	D3407	
DE APPR.	1/1	SHEET 3 OF 5	
DATE	08.07.23	TITLE	TOW RING
		NTS	

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8 7 6 5 4 3 2 1

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

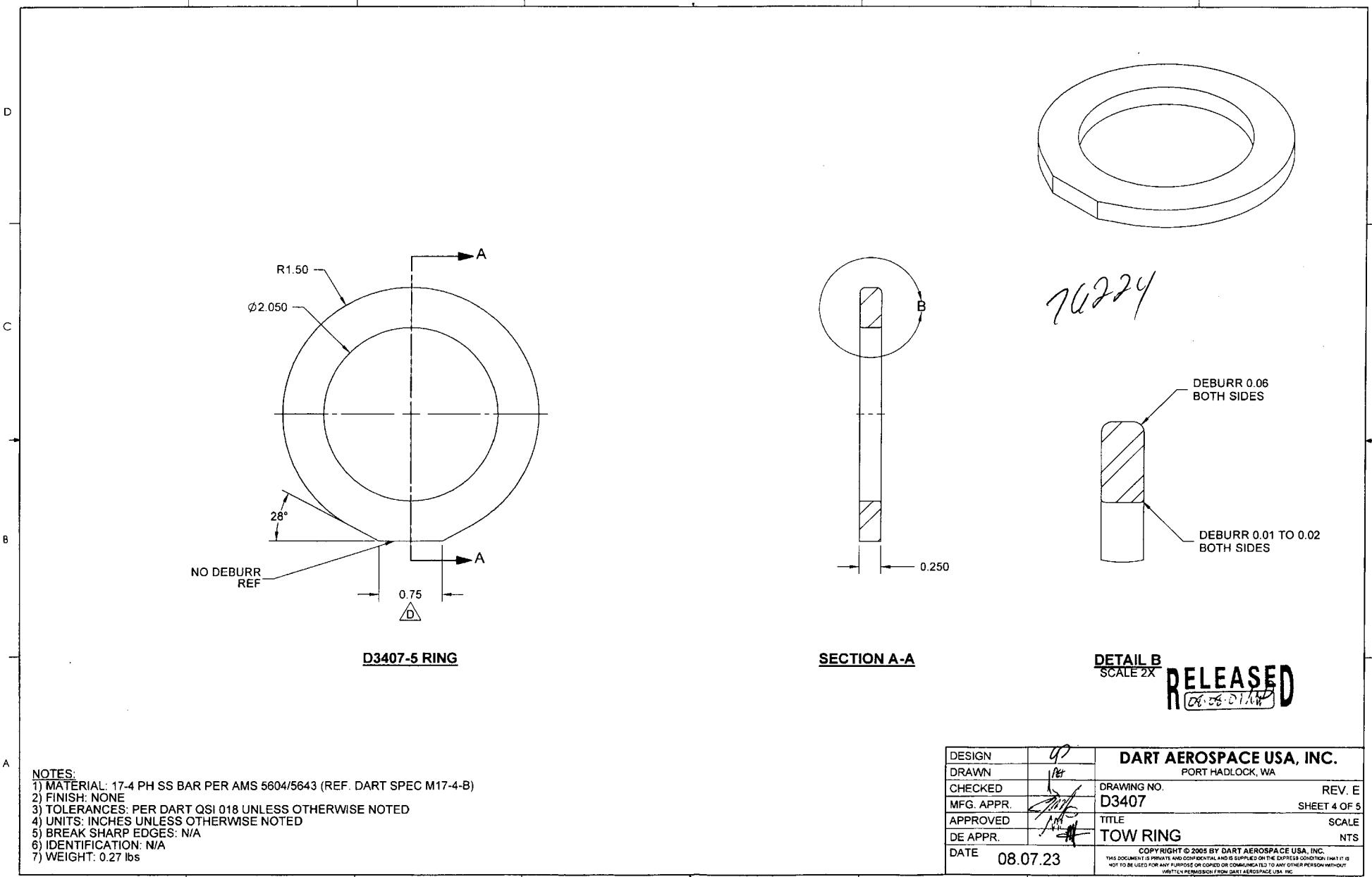
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

NO DEBURR
REF 28° D3407-5 RINGSECTION A-ADETAIL B
SCALE 2XRELEASED
06-08-01-64

NOTES:

- 1) MATERIAL: 17-4 PH SS BAR PER AMS 5604/5643 (REF. DART SPEC M17-4-B)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.27 lbs

DESIGN	<i>9P</i>	DART AEROSPACE USA, INC.	
DRAWN	<i>181</i>	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. E
MFG. APPR.	<i>✓</i>	D3407	SHEET 4 OF 5
APPROVED	<i>✓</i>	TITLE	SCALE
DE APPR.	<i>✓</i>	TOW RING	NTS
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8

7

6

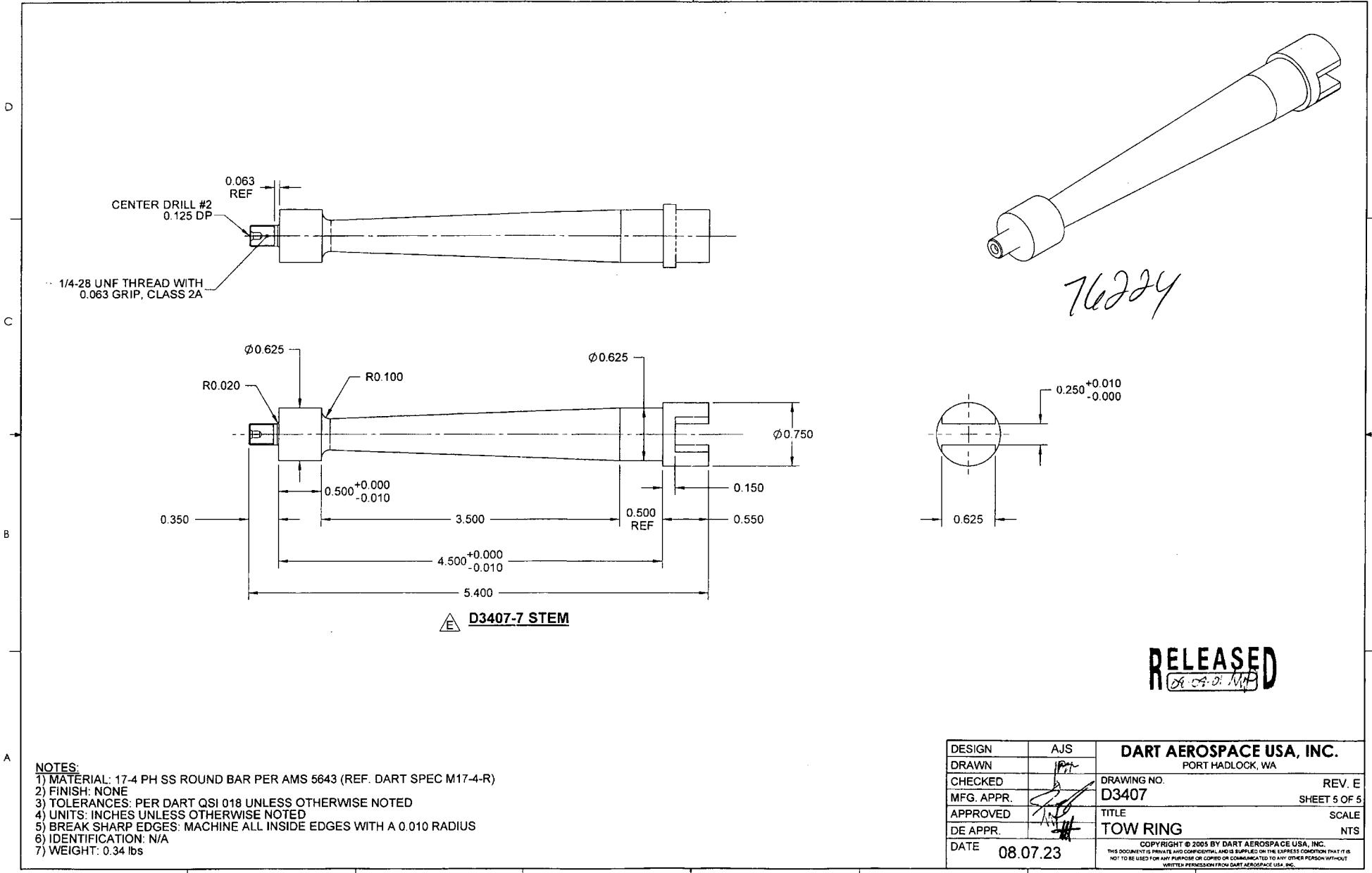
5

4

3

2

1



DESIGN	AJS	DART AEROSPACE USA, INC.	
DRAWN	<i>[Signature]</i>	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. E
MFG. APPR.	<i>[Signature]</i>	D3407	SHEET 5 OF 5
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	TOW RING	NTS
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